

In the claims:

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1. A thermal transfer roller, comprising:
an outer shell, an inner shell, and an annulus between the outer and inner shells;
at least [a first] an inlet end chamber in fluid communication with the annulus;
a roller journal in communication with the annulus; and
a plurality of inlet channels in the inlet [first] end chamber, each inlet channel having a first end closer to the roller journal and a second end closer to the annulus;
wherein [the second end of each channel is wider than the first end of the channel, and] each inlet channel becomes progressively wider along a plane which includes a circumference of the inlet end chamber between the first end and the second end thereof.

2. The thermal transfer roller of Claim 1, further comprising:
an outlet [a second] end chamber in fluid communication with the annulus;
[a fluid outlet channel in communication with the outlet end chamber;]
and

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a plurality of outlet channels in the outlet [second] end chamber, each outlet channel having a first end closer to the annulus and a second end [closer to the fluid outlet channel];

wherein the first end of each outlet channel is wider than the second end of the outlet channel.

3. The thermal transfer roller of Claim 1, wherein the inlet [first] end chamber comprises a plurality of radially extending walls defining the inlet channels.

4. The thermal transfer roller of Claim 1, wherein the inlet [first] end chamber comprises an insert including a plurality of baffles defining the inlet channels.

5. The thermal transfer roller of Claim 1, wherein the inlet [first] end chamber comprises at least about 10 of the inlet channels.

6. The thermal transfer roller of Claim 1, wherein the inlet [first] end chamber comprises at least about 20 of the inlet channels.

7. The thermal transfer roller of Claim 1, wherein the inlet [first] end chamber comprises at least about 30 of the inlet channels.

8. The thermal transfer roller of Claim 2, wherein the outlet [second] end chamber comprises a plurality of radially extending walls.

9. The thermal transfer roller of Claim 2, wherein the outlet [second] end chamber comprises an insert including a plurality of baffles.

10. The thermal transfer roller of Claim 2, wherein the outlet [second] end chamber comprises at least about 10 of the outlet channels.

11. The thermal transfer roller of Claim 2, wherein the outlet [second] end chamber comprises at least about 20 of the outlet channels.

12. The thermal transfer roller of Claim 2, wherein the outlet [second] end chamber comprises at least about 30 of the outlet channels.

14. A thermal transfer roller, comprising:

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an outer shell, an inner shell, and an annulus between the outer and inner shells;

an inlet end chamber in communication with the annulus;

a roller journal in communication with the inlet end chamber;

a plurality of inlet channels in the inlet end chamber, each having a wider end closer to the annulus and a narrower end further away from the annulus, wherein each inlet channel becomes progressively wider along a plane which includes a circumference of the inlet end chamber between the narrower end and the wider end thereof;

an outlet end chamber in communication with the annulus; and

a plurality of outlet channels in the outlet end chamber, each having a wider end closer to the annulus and a narrower end further away from the annulus, wherein each outlet channel becomes progressively wider along a plane which includes a circumference of the outlet end chamber between the narrower end and the wider end thereof.

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20. A thermal transfer roller, comprising:

an inlet [a first] end chamber in communication with a source of fluid;

an annulus in communication with the inlet [first] end chamber; and

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a plurality of inlet channels in the inlet end chamber, each inlet channel having a wider end closer to the annulus, and a narrower end, wherein adjacent inlet channels are separated by a wall having a substantially uniform thickness [a distance between the wider end of each channel and the wider ends of adjacent channels is about the same as a distance between the narrower end of each channel and the narrower ends of adjacent channels].

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21. The thermal transfer roller of Claim 20, further comprising:
an outlet [a second] end chamber in communication with the annulus;
and
a plurality of outlet channels in the outlet [second] end chamber, each outlet channel having a wider end closer to the annulus, and a narrower end.

REMARKS

Applicants' undersigned attorney would like to thank the Examiner for the telephone interview on 09 May 2000. During the interview, the Examiner indicated that the proposed amendments to independent Claims 1 and 14 did not distinguish the claimed invention from the prior art, specifically the radially extending passages described in Wiemer, German Patent Reference 587,808. However, the Examiner stated that the proposed amendment to independent Claim 20 distinguished